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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,495	12/12/2005	Werner Harter	10191/4188	2407

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KENYON & KENYON LLP
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NEW YORK, NY 10004

EXAMINER

TRIMMINGS, JOHN P

ART UNIT	PAPER NUMBER
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2117

NOTIFICATION DATE	DELIVERY MODE
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09/19/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@kenyon.com

Office Action Summary

Application No.

10/539,495

Applicant(s)

HARTER ET AL.

Examiner

John P. Trimmings

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☒ Claim(s) 11-15 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/17/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

This office action is a first action in response to the applicant's application dated 12/12/2005, being an entry into the national stage of PCT/DE03/04177 with an application date of 12/18/2003, as well as amendments filed 6/17/2005.

Claims 11-20 are presented for examination.

Priority

1. The examiner acknowledges receipt of the applicant's claim for priority in view of a foreign application dated 12/20/2002.

Information Disclosure Statement

2. The examiner has considered the applicant's IDS dated 6/17/2005.

Drawings

3. The drawings are objected to because the figures 1, 2 and 4 show the references 100-105 and 408 as "FF". The "FF" label has a narrowing effect on the drawings, and since the labels are hand-drawn, the examiner would like the applicant to certify that the "FF" labels were originally presented in the 371 application number PCT/DE03/04177.
4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "predefined number of shift registers" must be shown or the feature canceled from the claims 11 and 20. The

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examiner, as one of ordinary skill in the art, understands that a ***shift register*** is a circuit containing *storage units* that hold some number of bits for the purpose of shifting them left or right. The applicant may have miss-named this limitation in the claims because there is only one shift register illustrated in FIG. 1, 2 and 4 (100-105 and 408). Since only one shift register is illustrated, the claims could be amended to recite, "... a predefined shift register ..." without introducing new matter.

5. Also as per claims 11 and 20, the drawings are objected to for the same reason as above, where "... in at least one additional shift register ..." in the last lines of each claim must be shown in the drawings or the feature be cancelled. An amendment to correct this objection may recite, "in the shift register" instead. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Response to Amendment

6. The examiner has approved entry of the amended Abstract in the amendment dated 6/17/2005.

7. The examiner has not approved entry of the amendment to the Specification dated 6/17/2005 because the changes are considered by the examiner to be new matter that was not previously presented in the original application.

Claim Objections

8. Claims 11-15 and 20 are objected to because of the following informalities:

As per claim 11:

In order to maintain continuity to an instantiated limitation, the examiner requests that the following lines be amended:

Line 5: "... in the shift registers register ...".

Line 6: "... applied data words and cycles ...".

Line 8: "... from each applied data word in ...".

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As per claim 12:

Line 1: "... ~~the individual shift registers~~ register positions ...".

As per claim 13:

Line 1: "... ~~the individual shift registers~~ register positions ...".

As per claim 14:

Line 3: "... additional shift ~~registers~~ register positions ...".

As per claim 15:

Line 2: "... an additional shift register position."

As per claim 20:

In order to maintain continuity to an instantiated limitation, the examiner requests that the following lines be amended:

Line 5: "... in the shift ~~registers~~ register ...".

Line 6: "... applied data words and cycles ...".

Line 8: "... from each applied data word in ...".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 11 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter

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which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The phrase, "... a predetermined number of bit positions ..." in the 2nd line of each claim, is not supported in the specification as originally presented in this case. The only reference to the number of positions is where the applicant describes "n" as "a natural number greater than zero", and then a concrete number where n is at least 6. The examiner does not believe that these references may qualify as a "predetermined number".

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 11 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant, in line 3 of each claim, specifies that "input data to be tested is applied bit-by-bit and in parallel". The examiner, being of ordinary skill in the art, recognizes the shift registers of FIG. 1-2 and 4 to be parallel loaded MISRs, but cannot recognize the data as being serially loaded as claimed ("bit-by-bit"). Therefore the claims are indefinite because such a bit-by-bit application of data to the MISR is not illustrated, and not obvious nor discussed in the specification.

Claim Rejections - 35 USC § 102

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13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 11-12 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sim, US Patent No. 6199184.

As per claims 11 and 20:

Sim teaches a method based on a device for forming a signature (see FIG. 4), comprising: a predefined number of shift registers (FIG. 4 42-1 and 42-2) having a predefined number of bit positions (FIG. 4 6 bits each), to which input data to be tested (FIG. 4 Pin P1-P6) is applied bit-by-bit and in parallel (FIG. 4 P1-P6) as successive data words (see Abstract) and which serially shift the input data forward in a predefined cycle (standard MISR operation, see Background), a signature being formed in the shift registers after a predefined number of data words and cycles (standard MISR operation, see Background); and a code generator (FIG. 4 42-2) which generates at least one additional bit position (FIG. 4 S1-S6) in at least one additional shift register (FIG. 4 42-2) from each data word (6 bits) in the signature (FIG. 4 the Q outputs of 42-1).

As per claim 12:

Sim further teaches the device according to claim 11, wherein the individual shift registers (FIG. 4 42-1 or 42-2) are connected by antivalence points (FIG. 4 44-1 to 44-6 or 47-1 to 47-6), and the individual bits of the data words (FIG. 4 Pin P1-P6) at the antivalence points, as well as the at least one additional bit position of the code

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generator (FIG. 4 each Q output feeds each XOR input to 42-2), are inserted to form the signature (FIG. 4 S1-S6).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sim, US Patent No. 6199184. Sim further renders obvious the device according to claim 11, wherein the individual shift registers are connected by equivalence points (FIG. 4 44-1 to 44-6 or 47-1 to 47-6), and the individual bits of the data words (FIG. 4 Pin P1-P6), as well as the at least one additional bit position of the code generator, are inserted at the equivalence points to form the signature (FIG. 4 each Q output feeds each XOR input to 42-2), are inserted to form the signature (FIG. 4 S1-S6). The use of an inverted XOR position (equivalence point) has not been claimed by the applicant as having a patentable distinction or feature that would distinguish the device from other devices. Instead, this equivalence point appears to be in the realm of design requirements in the practice of sound engineering principles, to reduce aliasing, rather than a unique circuit feature that would be patentable, and therefore represents a prima facie case of obviousness.

Applicants can rebut a prima facie case of obviousness by showing the criticality of the claimed arrangement. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results.

16. Claims 14-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Sim, US Patent No. 6199184 as applied to claim 11 above, and further in view of Biswas, "Design of UED-AUED Codes from Berger's AUED Code", IEEE VLSI Design, 1997, January 1997, pp 364-369. Wherein Sim fails to specifically point out, the analogous reference of Biswas discusses several error detection and correction methodologies, including parity, ECC, Hamming, Berger, Bose and generic coding (see the document throughout). It would have been obvious to one of ordinary skill to implement the coding methods of Sim in a the well known manner prescribed by Biswas, where one could combine the elements as claimed by the applicant by known methods in the art, and that in the combination, each combined element would merely perform the same function as it did separately in Biswas, yielding predictable results. The result of said combination, would have been obvious to one of ordinary skill at the time of the invention in view of the above rationale, therefore the claim is rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Trimmings whose telephone number is (571) 272-3830. The examiner can normally be reached on Monday through Thursday, 7:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P Trimmings/
Examiner, Art Unit 2117
9/13/2007